Table S1: Raw results for the assesment of ephippi/male production in natural population per clone (final count)

		short day					Long day						
		ephippia	females	males	SR	total density	ephippia	females	males	SR	total density		
Moscow 1*5	1						6	23	23	0.50	46		
	2						6	13	23	0.64	36		
	3						6	7	29	0.81	36		
	4						15	10	15	0.60	25		
	5						6	17	5	0.23	22		
	6	28	9	15	0.63	24							
	7	26	14	6	0.30	20							
	8	17	16	10	0.38	26							
	9	19	6	40	0.87	46							
	10	26	15	6	0.29	21							
Moscow 1*6	1						0	20	2	0.09	22		
	2						3	9	34	0.79	43		
	3						2	1	45	0.98	46		
	4						7	4	45	0.92	49		
	5						4	5	36	0.88	41		
	6	1	NA	NA	NA	NA							
	7	6	5	41	0.89	46							
	8	4	21	27	0.56	48							
	9	10	23	18	0.44	41							
	10	9	13	30	0.70	43							
Moscow 1*7	1						3	16	18	0.53	34		
	2						3	3	8	0.73	11		
	3						2	10	21	0.68	31		
	4						7	15	25	0.63	40		
	5						6	10	18	0.64	28		
	6	21	24	11	0.31	35							
	7	19	12	16	0.57	28							
	8	8	25	9	0.26	34							
	9	15	29	1	0.03	30							
	10	4	27	17	0.39	44							
Volg 5	1						0	26	0	0.00	26		
	2						0	NA	NA	NA	NA		
	3	0	28	0	0.00	28							
	4						NA	NA	NA	NA	NA		
	5	2	4	8	0.67	12					0		
	6						0	81	21	0.21	102		
	7	1	11	9	0.45	20							
	8	3	11	34	0.76	45							
	9						0	65	0	0.00	65		
	10	9	31	12.00	0.28	43							
Volg 56	1						0	NA	NA	NA	NA		
	2												
	3						0-dead	NA	NA	NA	NA		
	4						0	18	6	0.25	24		
	5	0	32	24	0.43	56							
	6												
	7	1	15	41	0.73	56							
	8												
	9												
	10	0	3	31	0.91	34							
Volg 1*4	1						0	52	1	0.02	53		
	2						0	17	6	0.26	23		
	3						2	36	4	0.10	40		
	4						0	20	12	0.38	32		
	5						0	30	6	0.17	36		
	6	8	22	6	0.21	28							
	7	1	23	20	0.47	43							
	8	5	31	14	0.31	45							
	9	8	31	8	0.21	39							
	10	8	37	14	0.27	51							
Astrak 1*1	1						1	22	20	0.48	42		
	2						0	15	10	0.40	25		
	3						0	21	17	0.45	38		
	4						0	12	24	0.67	36		
	5						0	31	20	0.39	51		
	6	3	42	26	0.38	68							
	7	1	47	18	0.28	65							
	8	1	23	29	0.56	52							
	9	4	43	22	0.34	65							
	10	5	37	17	0.31	54							
Astrak 1*5	1												
	2	1	53	23	0.30	76							
	3	0	23	48	0.68	71							
	4	0	31	44	0.59	75							
	5						0	34	9	0.21	43		
	6						0	28	15	0.35	43		
	7						0	23	21	0.48	44		
	8												
	9												
	10												

	1					0		4	7	32	0.82	39		
	2	17	12	26	0.68	38								
	3							1	3	26	0.90	29		
Belarus	4							12	4	29	0.88	33		
s	5							21	30	11	0.27	41		
WRG-1	6	8	NA	NA	NA	NA								
	7	11	7	35	0.83	42								
	8	7	2	33	0.94	35								
	9													
	10													
	1							2	3	29	0.91	32		
	2							1	5	16	0.76	21		
	3							7	NA	NA	NA	NA		
Belarus	4							3	37	11	0.23	48		
s	5							5	14	23	0.62	37		
WRG-9	6	32	14	43	0.75	57								
	7	15	1	42	0.98	43								
	8	27	11	38	0.78	49								
	9	7	2	48	0.96	50								
	10	22	2	51	0.96	53								
	1							2	16	7	0.30	23		
	2							1	8	15	0.65	23		
	3							5	22	3	0.12	25		
Munich	4							7	9	2	0.18	11		
10	5							0	13	1	0.07	14		
	6	8	8	12	0.60	20								
	7	0	26	11	0.30	37								
	8	3	10	4	0.29	14								
	9	1	10	31	0.76	41								
	10	0	24	14	0.37	38								
	1													
	2							3	35	0	0.00	35		
	3							20	24	2	0.08	26		
Munich	4							20	9	17	0.65	26		
11	5							1	32	1	0.03	33		
	6	10	39	0	0.00	39		7	31	0	0.00	31		
	7	11	21	11	0.34	32								
	8	7	21	4	0.16	25								
	9	14	15	17	0.53	32								
	10	11	37	6	0.14	43								
	1							1	27	10	0.27	37		
	2							0	18	19	0.51	37		
	3							0	1	40	0.98	41		
Munich	4							0	20	14	0.41	34		
12	5							0	13	30	0.70	43		
	6	3	12	38	0.76	50								
	7	5	32	6	0.16	38								
	8	4	30	4	0.12	34								
	9	0	55	3	0.05	58								
	10	1	4	60	0.94	64								
	1							2	39	3	0.07	42		
	2							1	28	13	0.32	41		
	3							0	27	10	0.27	37		
Germa	4							6	33	5	0.13	38		
ny	5							8	20	11	0.35	31		
DKN1.3	6	8	48	6	0.11	54								
	7	0	41	9	0.18	50								
	8	20	35	0	0.00	35								
	9	9	52	7	0.12	59								
	10	15	45	0	0.00	45								
	1							1	41	7	0.15	48		
	2							1	36	5	0.12	41		
	3							0	32	3	0.09	35		
Germa	4							0	43	6	0.12	49		
ny	5							5	16	13	0.45	29		
DKN1.4	6	8	38	14	0.27	52								
	7	0	55	4	0.07	59								
	8	13	57	7	0.11	64								
	9	3	55	7	0.11	62								
	10	12	57	5	0.08	62								
	1							2	18	19	0.51	37		
	2							5	53	3	0.05	56		
	3							0	28	6	0.18	34		
Germa	4							0	36	2	0.05	38		
ny	5	9	54	4	0.07	58								
DKN1.6	6	24	57	9	0.14	66								
	7	5	50	3	0.06	53								
	8	13	50	5	0.09	55								

	9						0	34	8	0.19	42		
	10	8	43	0	0.00	43							
	1						0-dead	NA	NA	NA	NA		
	2						10	21	0	0.00	21		
	3						17	22	1	0.04	23		
UK EK1-78	4						0	25	0	0.00	25		
	5						10	42	0	0.00	42		
	6	2	35	0	0.00	35							
	7	1	22	0	0.00	22							
	8	0-dead	NA	NA	NA	NA							
	9	2	80	0	0.00	80							
	10	3	50	0	0.00	50							
	1						0-dead	NA	NA	NA	NA		
	2						0-dead	NA	NA	NA	NA		
	3						0	67	13	0.16	80		
UK EK1-79	4						0	31	2	0.06	33		
	5						0-dead	NA	NA	NA	NA		
	6	0	62	0	0.00	62							
	7	0-dead	NA	NA	NA	NA							
	8	0-dead	NA	NA	NA	NA							
	9	0	52	2	0.04	54							
	10	0-dead	NA	NA	NA	NA							
	1						0-dead	NA	NA	NA	NA		
	2						9	21	4	0.16	25		
	3						9	15	0	0.00	15		
UK EK1-85	4						0	54	0	0.00	54		
	5						15	47	6	0.11	53		
	6	0	26	0	0.00	26							
	7	0	53	0	0.00	53							
	8	5	60	0	0.00	60							
	9	2	31	0	0.00	31							
	10	0-dead	NA	NA	NA	NA							
	1						0	40	0	0.00	40		
	2						0	37	3	0.08	40		
	3						0	31	6	0.16	37		
Belgium OM1	4						0	33	5	0.13	38		
	5	0	54	3	0.05	57							
	6	0	64	6	0.09	70							
	7	0	57	8	0.12	65							
	8	0	37	8	0.18	45							
	9						0	49	2	0.04	51		
	10	0	46	6	0.12	52							
	1						0	52	0	0.00	52		
	2						0	32	5	0.14	37		
	3						0	29	11	0.28	40		
Belgium OM2	4						0	53	0	0.00	53		
	5						0	41	0	0.00	41		
	6	0	40	8	0.17	48							
	7	0	41	13	0.24	54							
	8	0	46	6	0.12	52							
	9	0	41	18	0.31	59							
	10	3	38	18	0.32	56							
	1						0	66	0	0.00	66		
	2						0	56	0	0.00	56		
	3						0	36	1	0.03	37		
Belgium OM3	4						0	58	0	0.00	58		
	5						0	42	2	0.05	44		
	6	0	70	0	0.00	70							
	7	0	61	0	0.00	61							
	8	0	53	0	0.00	53							
	9	0	57	0	0.00	57							
	10	0	40	3	0.07	43							
	1	10	27	23	0.46	50							
	2	9	27	47	0.64	74							
	3	13	18	35	0.66	53							
White sea R-Kor-1-1	4	15	19	34	0.64	53							
	5	25	48	13	0.21	61							
	6						16	71	0	0.00	71		
	7						9	35	8	0.19	43		
	8						11	28	5	0.15	33		
	9						26	21	8	0.28	29		
	10						5	7	41	0.85	48		
	1	36	25	17	0.17	54							
	2	23	30	15	0.00	30							
White sea R-Kor-1-4	3	19	40	1	0.26	43							
	4	13	35	5	0.03	35							
	5	40	32	23	0.42	52							
	6						17	25	10	0.42	38		
	7						23	16	14	0.32	34		
	8						27	22	12	0.17	41		
	9						16	21	4	0.31	35		
	10						14	27	5	0.57	35		

Table-S1

White sea R-Kor-1-6	1	12	45	9	0.17	54								
	2	26	30	0	0.00	30								
	3	15	32	11	0.26	43								
	4	7	34	1	0.03	35								
	5	14	30	22	0.42	52								
	6							6	17	22	16	39		
	7							8	23	23	11	46		
	8							6	27	34	7	61		
	9							13	16	24	11	40		
	10							8	14	15	20	29		
Sweden SG4-3	1	24	33	3	0.08	36								
	2	9	24	8	0.25	32								
	3	23	33	6	0.15	39								
	4	37	36	0	0.00	36								
	5	31	29	3	0.09	32								
	6							23	27	3	0.10	30		
	7							46	21	1	0.05	22		
	8							29	56	0	0.00	56		
	9							17	18	29	0.62	47		
	10							5	47	10	0.18	57		
Sweden SG4-7	1	6	30	5	0.14	35								
	2	13	22	10	0.31	32								
	3	12	15	2	0.12	17								
	4	2	31	8	0.21	39								
	5	14	16	18	0.53	34								
	6							4	14	9	0.39	23		
	7							5	16	8	0.33	24		
	8							6	25	8	0.24	33		
	9							5	19	6	0.24	25		
	10							8	25	1	0.04	26		
Sweden SG4-20	1	17	41	2	0.05	43								
	2	22	28	10	0.26	38								
	3	9	29	7	0.19	36								
	4	26	16	5	0.24	21								
	5	9	20	17	0.46	37								
	6							1	41	5	0.11	46		
	7							5	16	8	0.33	24		
	8							8	32	13	0.29	45		
	9							13	16	9	0.36	25		
	10													
Finland N47-20	1	2	11	35	0.76	46								
	2	9	32	12	0.27	44								
	3	8	11	36	0.77	47								
	4	8	14	17	0.55	31								
	5	3	19	29	0.60	48								
	6							2	11	14	0.56	25		
	7							2	7	30	0.81	37		
	8							4	4	12	0.75	16		
	9							4	22	14	0.39	36		
	10							3	17	9	0.35	26		
Finland N19-15	1	14	5	36	0.88	41								
	2							14	8	13	0.62	21		
	3	11	7	40	0.85	47								
	4							25	16	11	0.41	27		
	5													
	6													
	7													
	8													
	9													
	10													
Finland N46-20	1	26	16	2	0.11	18								
	2							30	6	3	0.33	9		
	3	36	24	17	0.41	41								
	4							32	12	6	0.33	18		
	5													
	6													
	7													
	8													
	9													
	10													
Italy ISR1-1	1	20	29	2	0.06	31								
	2							21	27	4	0.13	31		
	3													
	4							2	15	1	0.06	16		
	5	1	25	8	0.24	33								
	6	0	27	6	0.18	33								
	7							12	15	0	0.00	15		
	8													

	9													
	10													
	1	0	65	0	0.00	65								
	2	0	72	0	0.00	72								
	3							1	61	0	0.00	61		
Italy ISR1-2	4							2	45	0	0.00	45		
	5													
	6	0-dead	NA	NA	NA	NA								
	7	0-dead	NA	NA	NA	NA								
	8							0	40	0	0.00	40		
	9							0	33	0	0.00	33		
	10	0	84	0	0.00	84								
	1	0-dead	NA	NA	NA	NA								
	2	6	22	10	0.31	32								
	3							17	31	0	0.00	31		
Italy ISR1-8	4	11	27	0	0.00	27								
	5							9	30	5	0.14	35		
	6							11	28	2	0.07	30		
	7													
	8													
	9													
	10													
	1	0	52	15	0.22	67								
	2	3	45	24	0.35	69								
	3	0	52	23	0.31	75								
	4	0	68	12	0.15	80								
Israel 7	5							6	28	26	0.48	54		
	6							11	28	7	0.20	35		
	7	3	56	25	0.31	81								
	8							7	21	28	0.57	49		
	9							6	25	9	0.26	34		
	10							3	18	6	0.25	24		
	1	0	82	14	0.15	96								
	2	0	64	11	0.15	75								
	3							8	26	26	0.50	52		
	4	0	62	7	0.10	69								
	5													
Israel 8	6							7	40	1	0.02	41		
	7	0	62	1	0.02	63								
	8							2	42	15	0.26	57		
	9	0	45	19	0.30	64								
	10							5	35	9	0.20	44		
	5							5	28	1	0.03	29		
	1	0												
	2	3	38	21	0.36	59								
	3	3	39	21	0.35	60								
	4	4	19	27	0.59	46								
Israel 9	5	5	30	16	0.35	46								
	6							7	11	16	0.59	27		
	7							10	21	4	0.16	25		
	8							5	18	17	0.49	35		
	9							7	17	8	0.32	25		
	10							4	13	27	0.68	40		
	1	0	50	3	0.06	53								
	2	0	53	0	0.00	53								
	3	0	55	0	0.00	55								
	4	0	58	0	0.00	58								
Camargue1	5	3	49	6	0.11	55								
	6							0	27	0	0.00	27		
	7							0	43	0	0.00	43		
	8							1	26	12	0.32	38		
	9							0	35	0	0.00	35		
	10							0	33	7	0.18	40		
						7766						6022	13788	

TableS2: population coordinates and habitat information						
Species	**Site name**	**Site code**	**Country**	**Latitude, N**	**Longitude, E/W**	**type of habitat**
D. magna	Belgium	Be-OM1-	Belgium	50°51'47.82"N	04°43'16.92"E	permanent
D. magna	UK	EK-1-	England	55º43"N	2º11'W	permanent
D. magna	Germany1	DKN-1-	Germany	54°10'36.86"N	10°48'24.06"E	stable in summer, winter-forzen
D. magna	Moscow	RM-1-	Russia	55°45'48.50"N	37°34'53.70"E	stable in summer, winter-forzen
D. magna	Volgograd	RVOL-1	Russia	N48°31'47"	E44°29'12"	stable in summer, winter-forzen
D. magna	Belarus	WR-G-	Belarussia	52°25'0.1"N	30°58' 59"E	stable in summer, winter-forzen
D. magna	Astrakhan	Astr	Russia	46°21' 00"N	48°03' 00"E	stable in summer, winter-forzen
D. magna	Germany2	Mun	Germany	48°09' 00"N	11°34' 30"E	stable in summer, winter-forzen
D. magna	Finland	N	Finland	59º49'-50'N	23º12'-16E	summer dry and winter frozen (unpredictable)
D. magna	White sea	R-Kor	Russia	66°30'0.45"N	33°22'8.91"E	summer dry and winter frozen (unpredictable)
D. magna	Sweden	Se-G4-	Sweden	60.24,912	18.34,137	summer dry and winter frozen (unpredictable)
D. magna	Israel	Israel	Israel	32°16' 43"N	34°46' 11"E	summer dry, stable in winter
D. magna	Italy	ISR-1-	Italy	43°41'31"N	30°58' 59"E	summer dry, stable in winter